DATA SHEET

Enova® DGX DXLink™ Twisted Pair Input Board

AVS-ENOVADGX32-VI-DXLink (FG1058-570)

Overview

The AVS-ENOVADGX32-VI-DXLINK is a HDCP compliant twisted pair cable input board for the Enova DGX 8, 16, 32 and 64 Digital Media Enclosures. It has four connections per board designed to receive audio and video from DXLink Twisted Pair Transmitters while passing bi-directional control and Ethernet signals over one standard twisted pair cable up to 100m. DXLink Power is available from the DXLink Input Board to power DXLink Twisted Pair Transmitters.

Common Applications

The Enova DGX DXLink Twisted Pair Input Board is ideal for applications where source devices are located up to 100 meters away from the Enova DGX Digital Media Switcher and need to be distributed throughout a commercial or residential environment.

Features

- **Only One Cable** – Receive audio and video while passing control, Ethernet and power over one twisted pair cable
- **Send HDMI signals up to 100 Meters** – Extend the reach of the HDMI with HDCP signals far beyond the capabilities of typical HDMI cabling
- **Standard Twisted Pair Cable** – Save time and effort in installation by leveraging pre-existing cost effective twisted pair cable, see the Cabling for Success with DXLink white paper for more details
- **Hot Swappable** – Easily add or replace I/O boards at any time after deployment - the system automatically recognizes the new configuration and activates the boards
- **HDCP Compliant**

Additional Features

- **Remotely Powered Transmitters**- Power over DXLink* is available from the DXLink Input Board to power DXLink Transmitters
- **3D Support** - Pass through latest video formats including 3D and Deep Color
- **Surround Sound Support –** Pass through high definition surround sound including Dolby Digital, DTS and up to 8-channel L-PCM at 32 kHz, 44.1 kHz, 48 kHz, 96 kHz, 192kHz

*Power over DXLink to DXLink Transmitters must be supplied by one of the following DXLink Power sourcing devices: Enova DGX 8/16/32/64 Digital Media Switcher (with a DXLink Twisted Pair Input Board installed), Compatible Enova DVX All-In-One Presentation Switcher (3155HD, 3156HD or 2155HD), PS-POE-AT-TC High Power PoE Injector or PDXL-2 Power over DXLink Controller. AMX only supports the use of these approved Power over DXLink solutions. Other third party power supplies or non-compatible standard PoE solutions may damage the DXLink

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equipment. The DXLink Transmitter Module can also be powered via the included desktop power supply (ENERGY STAR® qualified) with power cord

Specifications

GENERAL	
Compatible AMX Products	Must be used in conjunction with an Enova DGX 8, 16, 32 or 64 Digital Media Enclosure and a DXLink Transmitter Compatible with all AMX DXLink Transmitters including HDMI Transmitter Module, Multi-Format Decor Style Wallplate and Multi-Format Wallplate
Approvals	CE, FCC Class A, UL, cUL, RoHS / WEEE compliant

Signal Transport – DXLink w/HDCP	
Compatible Formats	HDMI Video / Audio / Ethernet / Power and Control
Future Compatible Formats	USB (HID Keyboard & Mouse)**
Signal Type Support	DXLink
DXLink Power	The DXLink Twisted Pair Input Board provides Power over DXLink DXLink Multi-Format Wallplate Transmitters require a DXLink Power sourcing device, DXLink Transmitter Modules can be powered via DXLink Power or desktop power supply (ENERGY STAR® qualified) with power cord Approved Power over DXLink sourcing devices include: •Enova DGX 8/16/32/64 Digital Media Switcher (with a DXLink Twisted Pair Board installed) •Compatible Enova DVX All-In-One Presentation Switcher (3155HD or 2155HD) •PS-POE-AT-TC High Power PoE Injector •PDXL-2 Power over DXLink Controller When installed in conjunction with an Enova DGX use the Enova DGX Configuration Tool located at AMX.com/enova to determine the power requirements of the configuration AMX only supports the use of these approved Power over DXLink solutions. Other third party power supplies or non-compatible standard PoE solutions may damage the DXLink equipment. To use PS-POE-AT-TC or PDXL-2 as a power source the wallplates require firmware v1.2.40 or above Use the Enova DGX Configuration Tool located at AMX.com/enova to determine the power requirements of a configuration and whether any of the DXLink Transmitters or Receivers should be powered with the local power supply. The configuration tool contains instructions on how to determine power requirements
Connectors	(4) RJ-45 Ports
Transport Layer Throughput (Max)	10.2 Gbps
Twisted Pair Cable Type	Shielded Cat6, Cat6A and Cat7 **DXLink twisted pair cable runs for DXLink equipment**

	shall only be run within a common building where a common building is defined as: the walls of the structure(s) are physically connected and the structure(s) share a single ground reference For more details and helpful cabling information, reference the white paper titled Cabling for Success with DXLink, or contact your AMX representative
Twisted Pair Cable Length	Up to 328 ft (100 m)
Video Data Rate (Max)	4.95 Gbps / 6.75 Gbps 6.75 Gbps supported when the HDMI Output Board Scaler or DXLink HDMI RX Scaler is in Bypass mode and format is 1080p60 or less
Video Pixel Clock (Max)	165 MHz / 225 MHz 225 MHz supported when the HDMI Output Board Scaler or DXLink HDMI RX Scaler is in Bypass mode and format is 1080p60 or less
Progressive Resolution Support	480p up to 1920x1200 @ 60 Hz
Interlaced Resolution Support	480i, 576i, 1080i
Deep Color Support	24-bit, 30-bit, 36-bit 30-bit, 36-bit supported when the HDMI Output Board Scaler or DXLink HDMI RX Scaler is in Bypass mode and format is 1080p60 or less
Color Space Support	RGB 4:4:4 YCbCr 4:4:4 and 4:2:2 Input signal support for YCbCr 4:4:4 and 4:2:2, output color-space is converted to RGB 4:4:4
3D Format Support	Yes (HDMI Primary Formats, when used with DXLink Output Boards and the DXLink HDMI RX Scaler is in bypass mode) Frame Packing 1080p up to 24 Hz Frame Packing 720p up to 50/60 Hz Frame Packing 1080i up to 50/60 Hz Top-Bottom 1080p up to 24 Hz Top-Bottom 720p up to 50/60 Hz Side-by-Side Half 1080p up to 50/60 Hz Side-by-Side Half 720p up to 50/60 Hz
Audio Format Support	Dolby TrueHD, Dolby Digital, DTS-HD Master Audio, DTS, 2 CH through 8 CH L-PCM Dolby Digital and DTS support up to 48 kHz, 5.1 channels
Audio Resolution	16 bit to 24 bit
Audio Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 96 kHz, 192 kHz
Local Audio Support	Yes, Insertion and/or Extraction of 2 CH L-PCM selectable by channel when used in conjunction with Enova DGX Audio Insert / Extract Board
HDCP Support	Yes, full matrix HDCP support (includes any input to any or all outputs) Key Management System AMX HDCP InstaGate Pro Technology Key support up to 16 sinks per output, independent of source device
CEC Support	None
ICSP, TCP/IP, IR, Control Management	Control distribution is managed by the Enova DGX 8/16/32/64 Digital Media Switcher on-board NetLinx Master and Ethernet Switch
DDC/EDID Support	EDID provided by the Enova DGX 8/16/32/64 Digital

	Media Switcher to the connected DXLink HDMI TX, EDID is user re-programmable

**This feature will be available upon release of a future firmware update

EDID – FACTORY LOADED[1]	
Note	The default EDID can be overwritten to include a broad range of features based on installation requirements
Standard Timing Identification	1920 x 1080 @60 Hz (This is the preferred format DTD identified in the EDID) 1920 x 1200 @60 Hz 1680 x 1050 @60 Hz 1600 x 1200 @60 Hz 1600 x 900 @60 Hz 1400 x 1050 @60 Hz 1440 x 900 @60 Hz 1360 x 765 @60 Hz 1280 x 1024 @60 Hz 1280 x 900 @60 Hz 1280 x 800 @60 Hz 1280 x 720 @60 Hz
Established Timing	1280 x 1024 @ 75 Hz 1152 x 870 @ 75 Hz 1024 x 768 @ 60 Hz, 70 Hz, 75 Hz, 87 Hz 832 x 624 @ 75 Hz 800 x 600 @ 56 Hz, 60 Hz, 72 Hz, 75 Hz 720 x 400 @ 70 Hz, 88 Hz 640 x 480 @ 60 Hz, 67 Hz, 72 Hz, 75 Hz
CEA Video Information Code (VIC) Formats	VIC = 1, 640 x 480 p 59.94/60 Hz 4:3 VIC = 2, 720 x 480 p 59.94/60 Hz 4:3 VIC = 3, 720 x 480 p 59.94/60 Hz 16:9 VIC = 4, 1280 x 720 p 59.94/60 Hz 16:9 VIC = 5, 1920 x 1080i 59.94/60 Hz 16:9 VIC = 6, 720(1440) x 480i 59.94/60 Hz 4:3 VIC = 14, 1440 x 480 p 59.94/60 Hz 4:3 VIC = 15, 1440 x 480 p 59.94/60 Hz 16:9 VIC = 16, Native 1920 x 1080 p 59.94/60 Hz 16:9 VIC = 17, 720 x 576 p 50 Hz 4:3 VIC = 18, 720 x 576 p 50 Hz 16:9 VIC = 19, 1280 x 720 p 50 Hz 16:9 VIC = 20, 1920 x 1080i 50 Hz 16:9 VIC = 21, 720(1440) x 576i 50 Hz 4:3 VIC = 22, 720(1440) x 576i 50 Hz 16:9 VIC = 29, 1440 x 576 p 50 Hz 4:3 VIC = 30, 1440 x 576 p 50 Hz 16:9 VIC = 31, 1920 x 1080 p 50 Hz 16:9 VIC = 32, 1920 x 1080 p 23.97/24 Hz 16:9 VIC = 33, 1920 x 1080 p 25 Hz 16:9 VIC = 34, 1920 x 1080 p 29.97/30 Hz 16:9 VIC = 39, 1920 x 1080i 50 Hz 16:9 VIC = 41, 1280 x 720 p 100 Hz 16:9 VIC = 42, 720 x 576 p 100 Hz 4:3 VIC = 43, 720 x 576 p 100 Hz 16:9 VIC = 44, 720(1440) x 576i 100 Hz 4:3 VIC = 45, 720(1440) x 576i 100 Hz 16:9 VIC = 47, 1280 x 720 p 119.88/120 Hz 16:9 VIC = 48, 720 x 480 p 119.88/120 Hz 4:3 VIC = 49, 720 x 480 p 119.88/120 Hz 16:9
Audio Data Block	Basic Audio: 2 Channel L-PCM 32, 44.1, 48 kHz Sampling Frequency at 16, 20 or 24 bits per sample

[1]The default EDID can be overwritten to include a broad range of features, including HDMI mode, based on installation requirements

About AMX

AMX hardware and software solutions simplify the implementation, maintenance, and use of technology to create effective environments. With the increasing number of technologies and operating platforms at work and home, AMX solves the complexity of managing this technology with reliable, consistent and scalable systems. Our award-winning products span control and automation, system-wide switching and audio/video signal distribution, digital signage and technology management. They are implemented worldwide in conference rooms, homes, classrooms, network operation / command centers, hotels, entertainment venues, broadcast facilities, and more. ©2013 AMX. All rights reserved.

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